(c) and (d) The inadequate and imbalanced use of chemical fertilizers causing nutrient deficiencies coupled with falling organic carbon levels in soils have led to stagnation/decline in crop productivity in some parts of the country.

(e) and (f) The Government has recently approved 2 new schemes namely "National Food Security Mission" and "Additional Central Assistance" for improving productivity of crops.

Adverse effect of global warming on agriculture

1993. DR. BARUN MUKHERJEE: Will the Minister of AGRICULTURE be pleased to state:

(a) whether it is a fact that the FAO (UN) chief has recently predicted a huge loss of cereals production of India due to climate change;

(b) if so, whether Government agree to it and what is Government's assessment in this respect;

(c) which of the cereals may be worst affected;

(d) whether Government agree that such adverse effect of global warming is a matter of great concern, particularly when India's growth rate in agricultural sector has alarmingly gone down; and

(e) what measures are being taken to combat such adverse situation?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTILAL BHURIA): (a) FAO Chief has predicted loss of cereal production in India due to climatic change. He stated that rainfed agriculture in marginal areas in semi-arid and sub-humid region is mostly at risk. He further suggested that science and technology including new tools available in the field of bio-technology must spearhead agricultural production in the coming years at a faster rate than in the past.

(b) and (c) Recent studies in Indian Council of Agricultural Research (ICAR) indicate the possibility of loss of 4-5 million metric tones of wheat production with every rise of 1°C temperature throughout the growth period. Wheat may be more affected than other cereals.

(d) and (e) Adverse effects of global warming are a matter of concern for the country's food security. Simple practices such as change in planting date and crop varieties could help in reducing the impact of climate change. ICAR has taken several measures to address this issue including adaptation to climate change. Wheat varieties such as NIAW 34, RAJ 3765, RAJ 4037 and DBW 14 have been developed. that are tolerant to rise in temperature. Resource Conservation Technologies like Zero Tillage Technology are being popularized. Zero Tillage Technology reduces the cost of cultivation, advances the time of wheat sowing (4-5 days), requires less water for the first irrigation and saves diesel. It thus, also helps reduce emission of green house gases.